REPORT ON FIELD TESTING OF THE GAME
OF SQUARES

Eleanor Pester

Educational Materials Research and Development
American Printing House for the Blind

January 1977

Report on Field Testing of The Game of Squares

Purpose

The purpose of this field test was to evaluate the revised version of the Game of Squares. The original game, which underwent extensive revision because of production problems, was previously approved for production.

Subjects

The subjects were 19 legally blind students enrolled at the Kentucky School for the Blind. They ranged in age from 5 to 12 years with a mean and median of 8 years old and a mode of 7 years old. Ten students were large type readers and nine were braille or potential braille readers.

Materials

The material used in this evaluation was The Game of Squares which consists of the following: a playing board, "sides," "markers," a set of directions, and an observation sheet to be filled out for each subject. A copy of the directions and an observation sheet are attached.

Procedure

In the Fall of 1976, the revised version of the Game of Squares was tested with students at the Kentucky School for the Blind by Larry Butterfield and Eleanor Pester. The directions were read to the students as the parts were being manipulated by them. Assistance was given as needed. Then the students played at least one game either with the investigator or with another subject, during which observations were made.

Results

Table 1 shows the ratings given by the investigators on various parts of the game for braille readers, large type readers, and for all the subjects. In general, the investigators felt that the students could play the game although some would require additional practice to really play it well. Only three students, one large type reader and two braille readers, were actually judged unable to play the game. Only one problem was encountered regarding the directions. The players did not seem to understand that each time a player completed a square, this entitled him/her to receive one additional turn. This point may need to be emphasized or clarified in the directions. However, it may only be an initial problem of giving the students too much information to absorb at one time. There were no real legibility problems with the board. However, it did move around on the table as some students tried to read it tactually. Legibility and manipulability of the "markers" were satisfactory as far as differences in texture were concerned. The use of two contrasting colors along with different textures on the tops and bottoms would probably improve the "markers" for use with sighted and partially sighted players. Manipulability of the "sides" was one of the lowest rated features of this game. Students encountered two kinds of problems with the "sides." Some had trouble finding the grooved part of a "side." Some had difficulty aligning the grooved part on a "side" with the raised sides on the board.

"Sides" and "markers" were mixed together in a pile beside the board on the table. Some students had to pick up several pieces before finding the one they desired. If a divided storage area was added to opposite ends of the board students could locate desired playing pieces faster.

The student's ability to play received the lowest rating of all of the game features observed. Table 1, item 6, shows that reading mode did not make much difference in the way students played. Age may have been a more significant factor since the average age of the group rated "good" in ability to play was 8.6 years while the average ages of the "fair" and "poor" groups were only 7.6 years and 7.8 years respectively. However, the limited numbers of subjects at each age level make this observation inconclusive.

This rating is also difficult to assess because the meaning of "the student's ability to play" is not clear. From the observations that were made, it seems that students could "play the game" in at least one of the following ways:

(1) moving haphazardly, using no apparent logic

(2) trying to make a square, but not paying any attention to other plays on the board

(3) Looking all over the board for squares with three "sides" that could be completed by adding the fourth "side"

(4) whenever possible avoiding putting the third "side" on a square so that his opponent could not complete it

(5) when forced to put on a third side, choosing a place where his opponent is given the smallest number of moves

In the light of these various ways of "playing the game," two questions arise. First, what is meant by a rating of "good," "fair," or "poor?" Second, was a five-year-old expected to "play" the same way as a twelve-year-old in order to receive the same rating? These questions could only be resolved by more regorously defining these terms before beginning evaluation. Neverhteless, in spite of these rating problems, a large majority of the students (14 of the 19) were rated either good or fair in ability to play whether they were rated on a fixed standard or on their own expected ability. Undoubtedly these ratings would improve as students continued to play the game.

Students reacted very well to playing the game. Most wanted to play the game again. Several compared it to the game of checkers. One boy who really liked the game wanted to buy it. Subjects seemed to especially enjoy playing against each other.

Conclusion

Based on the limited data gathered, the Game of Squares can be produced in this form and used by most visually handicapped students who have reached the third grade level of achievement or beyond. A student with well developed cognitive and motor skills would probably enjoy playing the game sooner, especially if he is playing a peer who shows a similar level of development.

The following revisions are recommended to improve the game:

1) The directions for playing the game should be edited in such a way to emphasize the idea that a player receives an additional turn everytime he completes a square.

2) The board should be modified so that it will not move around on the table.

3) A divided storage area needs to be added to opposite ends of the board for keeping "sides" and "markers" accessible.

4) The "markers" should have contrasting colors as well as textures on the tops and bottoms.

5) Students experiencing difficulty identifying the grooved part on the "side" and aligning it with the raised sides on the board may be aided by using a fingernail to find the groove and their finger to trace the raised side on the board before trying to put the two together.

Table 1

Observation Ratings by Reading Mode

	Braille Readers/N=9			Large Type Readers/N=10			Total N=19		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1. Legibility of board	8	1	-	9	1	-	17	2	-
2. Legibility of markers	9	-	-	7	3	-	16	3	-
3. Clarity of directions	8	1	-	8	2	-	16	3	-
4. Manipulability of the sides	4	3	2	5	4	1	9	7	3
5. Manipulability of the markers	7	1	1	9	1	-	16	2	1
6. Student's ability to play	4	3	2	3	4	3	7	7	5
7. Student's reaction	7	1	-	9	-	-	16	1	-

OBSERVATION SHEET

Name________________________________Age____Grade____Reading Mode __________

After explaining the game and playing it two times with the student, put a check indicating the way you would rate each of the following:

	GOOD	FAIR	POOR	COMMENTS
1. Legibility of the board.				
2. Legibility of the markers.				
3. Clarity of the directions.				
4. Manipulability of the sides.				
5. Manipulability of the markers				
6. Student's ability to play.				
7. Student's reaction.				

8. Other comments or observations:

The Game of Squares

The Game of Squares has three parts. There is a playing board with sixteen small squares making one large square. There are forty plastic "sides" that fit over the raised sides of the small squares on the board. There are sixteen small square, wooden "markers" which are smooth on one side and rough on the other and which fit in the small squares on the board.

The game is played by two people who take turns putting plastic "sides" on the board. The object of the game is to complete the most small squares on the board.

When a player finishes a square by putting the fourth "side" on it, he marks that square with his "marker." The first player to finish a square gets to choose whether his "markers" will have the smooth or the rough side on top. The other player will use the other side of the "markers." When a player has finished and marked a square, he gets to put on another "side", trying to finish another square. Each time he finishes a square, he gets another turn.

When all the squares are finished, the game is over. Then the players count up their "markers" on the board. The player who has the most "markers" is the winner.

Variation

This game is similar to Tic-Tac-Toe, but players try to get four "markers" in a line instead of the usual three. Before play begins, all of the plastic "sides" are placed on the board. One player uses the rough side of the "markers" and the other uses the smooth. They alternate turns. Each player tries to be the first to place four of his "markers" in a line.